

The issue of timing of bariatric surgery in the liver setting.

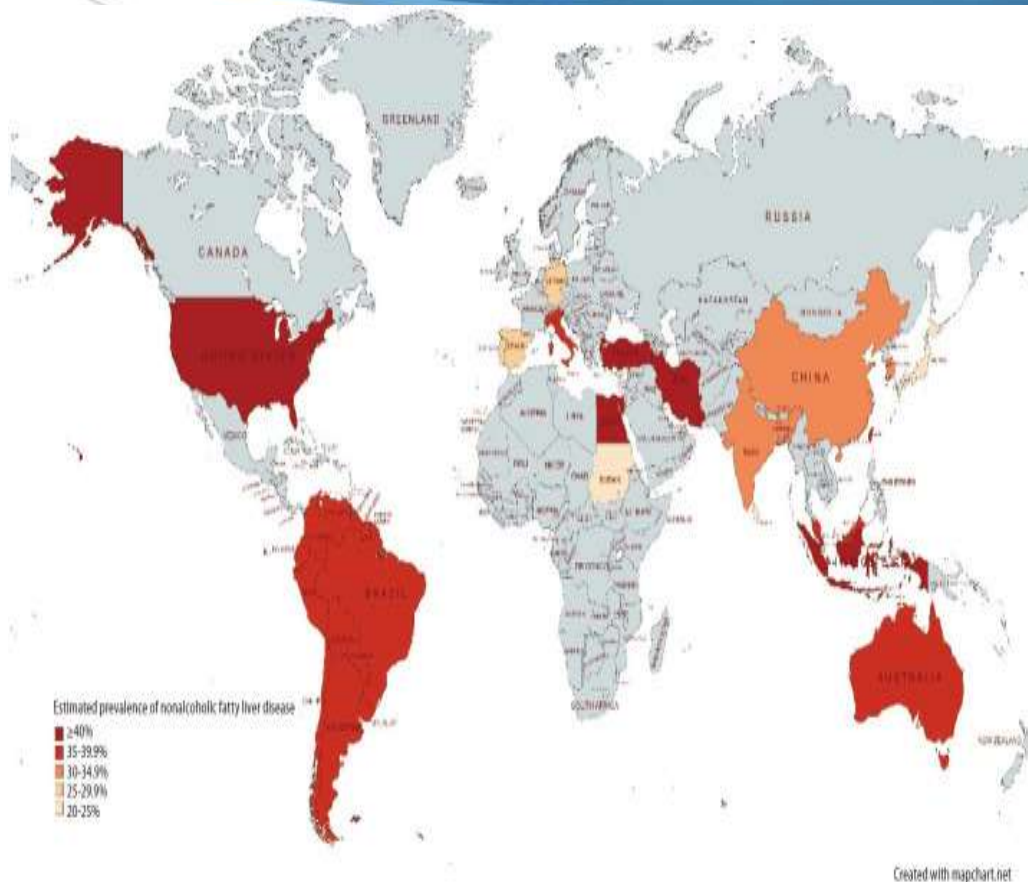
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DISCLOSURES

Proctor- Intuitive
Consultant- Medtronic
Speaker- Conmed.

NAFLD-Scope of problem



- ◆ NAFLD- Global Incidence- 32%
- ◆ NAFLD- Americas, South East Asia- 40%
- ◆ NASH- 5% of US population.

Need for MBS

- ◆ High prevalence of Obesity in LT Cohort.
- ◆ BMI>40 Cutoff in most programs.
- ◆ LT Technically Challenging in Obese patients.
- ◆ Immunosuppressive medications Obesogenic
- ◆ Immunosuppressive medications are Diabetogenic, DM independent risk factor for graft survival.
- ◆ Obese LT patients are high risk for Metabolic syndrome and risk of CVA events increased.
- ◆ Recurrence of NASH after transplant is 30-100%

MBS before LT Assessment

- ◆ Child Turcotte- Pugh Score

Mortality A-10%, B-30%,C-80%

Ascites, Encephalopathy – Subjective.

- ◆ MELD Score more objective.

Mortality increases 1 percent for every point increase below 20 and 2% for point increase above 20

MELD above 8%- poor outcome.

Portal Hypertension

- ◆ Thrombocytopenia and Splenomegaly
- ◆ Ascites- wound healing.
- ◆ Ascites- Pulmonary atelectasis.
- ◆ Varices, Shunts.
- ◆ Periop fluid shifts
- ◆ Hepatic venous wedge pressure >10 - Significant Portal Hypertension.
- ◆ Risk of TIPS should be weighed.

MBS before LT- Disadvantages

- ◆ High risk of bleeding.
- ◆ Can cause progression to Decompensated Cirrhosis, liver failure.
- ◆ If patient leaks may prevent patient from qualifying for LT
- ◆ If patient leaks may make Future LT technically difficult due to adhesions.

MBS before LT- Advantages

- ◆ Makes LT less challenging due to body habitus change.
- ◆ May cause patient to be Delisted due to improvement in Liver disease.
- ◆ May improve chances of getting listed due to decrease in BMI

Original article

Outcomes of bariatric surgery in patients with obesity and compensated liver cirrhosis

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- ◆ Overall Complication rate Higher in Cirrhotic group. 13.6% vs 6.3%
- ◆ Hospital LOS higher in cirrhotic group.
- ◆ Significantly higher 90 day postop mortality in cirrhotic group. (probably from progression of disease rather than bariatric Surgery)
- ◆ Long term mortality equivalent between two groups.
- ◆ Total weight loss between two groups at 12 months equivalent.

MBS During LT- Advantages

- ◆ One operation, one hospital stay.
- ◆ Resolution of Portal Hypertension
- ◆ No adhesions.
- ◆ Insurance coverage or delays in approval for MBS
- ◆ Graft has best chance of avoiding De Novo steatosis.

MBS During LT- Disadvantages

- ◆ Complication from BS can have severe consequences.
- ◆ Infection, Bleeding.
- ◆ Immunosuppression modification if complication from MBS may have impact on graft survival.

Combined liver transplantation and gastric sleeve resection for patients with medically complicated obesity and end-stage liver disease

J K Heimbach¹, K D S Watt, J J Poterucha, N Francisco Ziller, S D Cecco, M R Charlton, J E Hay, R H Wiesner, W Sanchez, C B Rosen, J M Swain

Patients with BMI>35 were enrolled

37 pts achieved weight loss and underwent LT alone, 7 Underwent S-LT

◆ LT alone

Weight gain to BMI>35- 21/34

Post LT-DM- 12/34

Steatosis- 7/34

3 Deaths, 3 Graft losses.

◆ S-LT

Substantial weight loss- Mean BMI 29

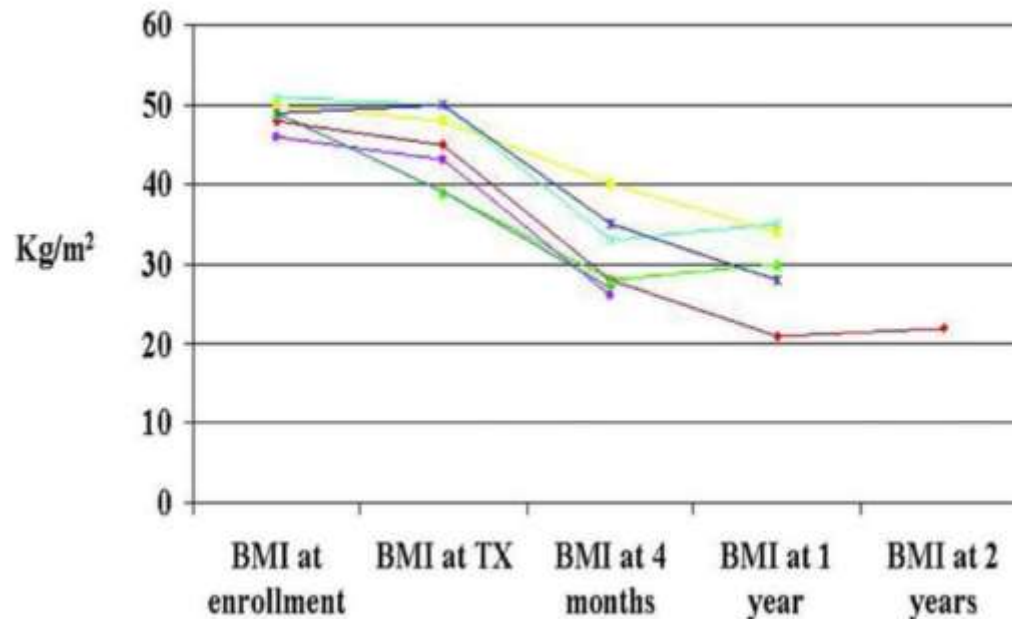
No DM

No Steatosis

No deaths, No Graft Loss

1 Sleeve Leak, 1 patient with excess weight loss

BMI Trends for S-LT



BMI trends for those patients who underwent combined liver transplant plus sleeve gastrectomy (N = 7). Mean follow-up is 17 mo. Reproduced from original publication Heimbach JK, et al. *Am J Transplant*. 2013;13(2):363-368

Combined liver transplantation and sleeve gastrectomy: Report of a brief-interval staged approach

Nabil Tariq ¹, Ashish Saharia, Ugoeze Nwokedi, Mark J Hobeika, Constance M Mobley, David Hsu, Lucy M Potter, Linda W Moore, Ahmed Elaileh, Vadim Sherman, R Mark Ghobrial

14 Cases Two stage LT-SG, 28 Controls Two stage LT
Similar MELD

EWL at 1 Year- 74% VS 15.8%

Graft survival- 92.9 vs 89.3%

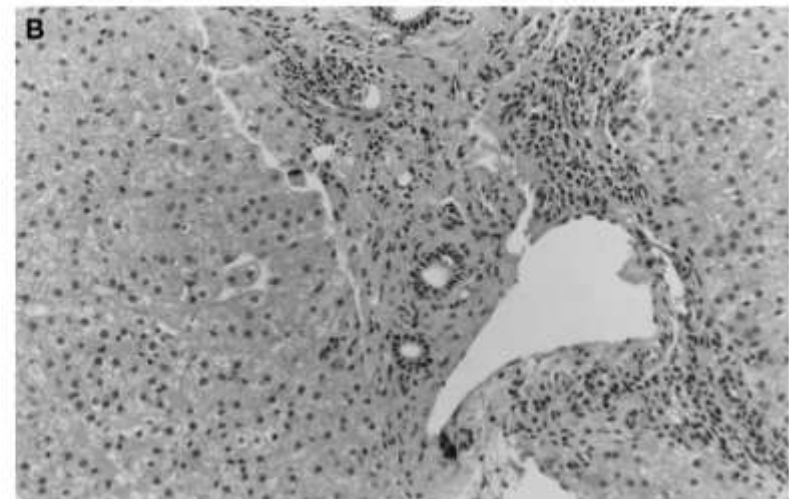
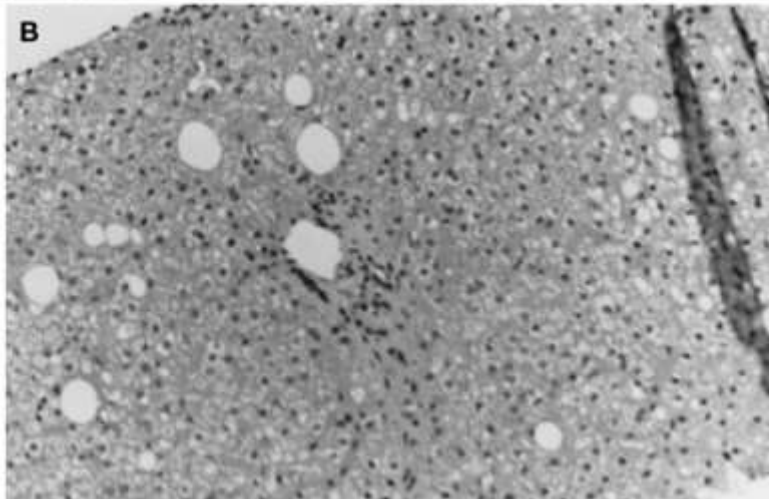
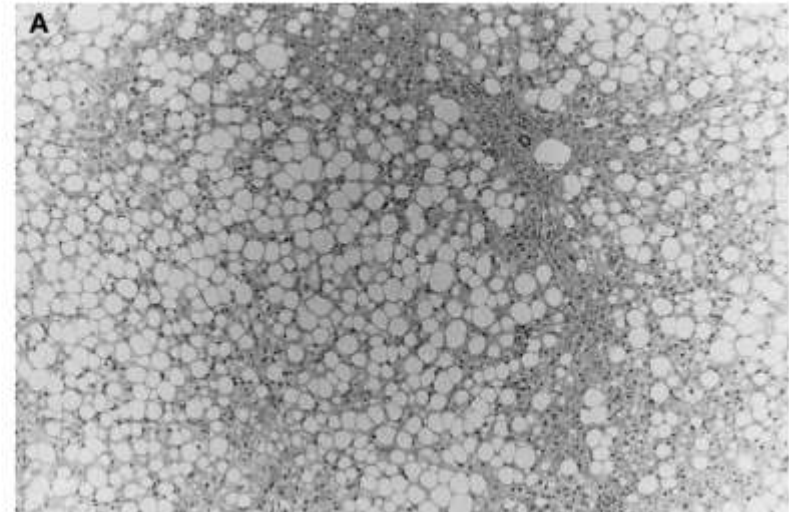
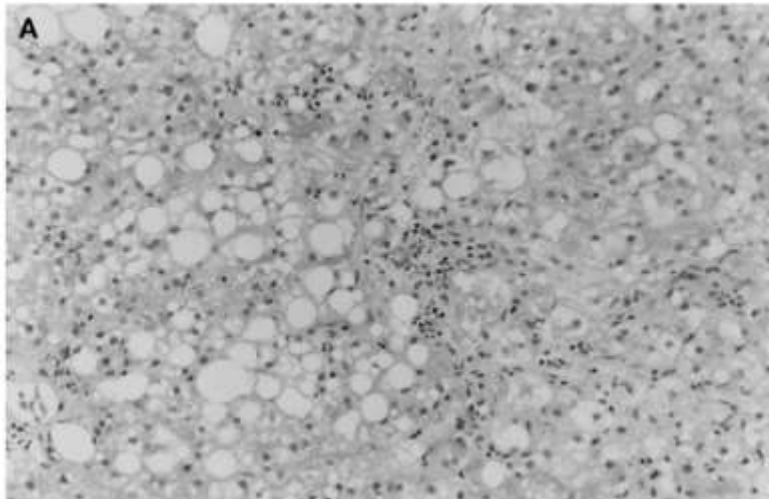
No reintervention due to SG

Maybe a feasible option of performing SG in High risk patients.

ROUX-EN-Y GASTRIC BYPASS FOR RECURRENT NONALCOHOLIC STEATOHEPATITIS IN LIVER TRANSPLANT RECIPIENTS WITH MORBID OBESITY

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Safety and feasibility of sleeve gastrectomy in morbidly obese patients following liver transplantation

**Matthew Y. C. Lin · M. Mehdi Tavakol ·
Ankit Sarin · Shadee M. Amirikiai · Stanley J. Rogers ·
Jonathan T. Carter · Andrew M. Posselt**

- ◆ Comparable weight loss with non OLT recipients
- ◆ Major complication related to simultaneous mesh repair of hernia in one patient.
- ◆ Another patient required conversion to gastric bypass for persistent dysphagia.

Laparoscopic Sleeve Gastrectomy for Morbid Obesity in Patients After Orthotopic Liver Transplant: a Matched Case-Control Study

Levan Tsamalaidze¹ • John A. Stauffer¹ • Lisa C. Arasi¹ • Diego E. Villacreses¹ • Jose Salvador Serrano Franco² • Steven Bowers¹ • Enrique F. Elli¹

Looked at two groups of pts one with SG after OLT and SG without OLT

Complications similar

Less EWL in OLT group compared to Non OLT group.

Non OLT group shorter Hospital stay.

Resolution of Obesity related comorbidities similar between two groups.

Major complications in SG group was 25% including need for sleeve dilation.

All major complications related to poor oral intake.

No Liver complications, No alteration in Immunosuppression.

Conclusions

- ◆ Bariatric Surgery can be performed safely before, during or after OLTX.
- ◆ Performing it at the time of MBS requires a lot of coordination and resources.
- ◆ In our hands we perform MBS before OLTX in well compensated cirrhotic patients.
- ◆ We also have performed them after OLTX in patients.
- ◆ Recommendations can't be universal and is program specific.



Thank You

